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WTT-977

Meeting Dates

Continued from page 30

Green Industry Seminar and Trade Show, Springfield-Oaks Park and Youth Activities Center, Davisburg, Mich., Oct. 25-26.

Washington-North Idaho Seed Association Annual Convention, North Shore Motor Hotel, Coeur d'Alene, Idaho, Oct. 28-29.

Professional Grounds Management Society Annual Conference, Stouffers Hotel, Greenway Plaza, Houston, Tex., Oct. 30-Nov. 3.

Texas Recreation and Park Society Annual State Conference, La Quinta Royale, Corpus Christi, Tex., Nov. 2-5.

ALCA Maintenance Symposium, Northlake Hilton Inn, Atlanta, Ga. Nov. 3-4.

Landscape Maintenance Contractors Symposium, Northlake Hilton Inn, Atlanta, Ga., Nov. 3-4.

State of the Art Symposium on Dutch Elm Disease Control, U.S. National Arboretum, Washington, D.C., Nov. 9-10.

Meeting Dates

Continued from page 32

ALCA Maintenance Contractors Symposium, Northlake Hilton Inn, Atlanta, Ga., Nov. 3-4.

Landscape Maintenance Contractors Symposium, Northlake Hilton Inn, Atlanta, Ga., Nov. 3-4.

American Society of Agronomy, Crop Science Society of America and Soil Science Society of America Joint Meeting, Los Angeles Bonaventure and Hilton Hotels, Los Angeles, Cal., Nov. 13-18.

ALCA Management Information Systems Executive Management Seminar, Airport Hilton Inn, Denver, Colo., Dec. 1-2.

Ohio Turfgrass Conference and Show, Dayton, Ohio, Dec. 6-8.

ALCA Design/Build Symposium, Sheraton-Dallas Hotel, Dallas, Tex., Dec. 7-8.

TURF GRASS '78, Maryland Turf Grass Council, Sheraton Lanham Inn, Lanham, Md., Jan. 8-12.

ALCA Annual Meeting and Trade Exhibit, Hyatt House, Orlando, Fla., Jan. 30-Feb. 3.

American Sod Producers Association Winter Conference, El San Juan Hotel, San Juan, Puerto Rico, Feb. 2-28.

National Arborist Association Annual Meeting, Sarasota Hyatt House, Sarasota, Fla., Feb. 19-23.

Wisconsin Landscape Federation 1978 Conference, Concourse Hotel, Madison, Wis., Mar. 5-6.

Association of Physical Plant Administrators of Universities and Colleges Convention, Radisson Hotel, Minneapolis, Minn., May 21-24.

Pre-mixing stops fall-out

Incompatability of pesticides in a spray tank is a messy thing. Incompatibility can be manifested as 1) a semi-solid or jelly substance, 2) precipitates as a gummy sediment, or 3) incomplete dispersal of the pesticides.

Pre-mixing the pesticide proposed mixture in jars in appropriate use proportion is one method to determine if incompatability might occur.

In addition to pre-mixing in jars, incompatability can be minimized if the following procedure is used when mixing pesticides:

1) It is best to pre-mix the pesticides in small containers.

2) Male a slurry of wettable powders.

3) Pour the slurry into a nearly filled spray tank while agitating. If a pesticide is a water dispersible liquid (WDL), add WDL directly to the water in the spray tank.

4) Next add the liquid formulations while still agitating.

5) Lastly add any surfactant. This minimizes foaming.

6) Maintain moderate agitating to provide uniform mix during application.

7) Do not allow the agitation to stop (as for lunch) especially if wettable powders are used as these settle out of suspension and cannot be easily re-suspended. □

Sex life of fire ant may be one key to eventual control

A Texas scientist has discovered an oddity in the sex life of the fire ant that may be the very weakness needed for control of this fast-spreading pest.

Dr. Akey C. F. Hung, entomologist with the Texas Agricultural Experiment Station has found some naturally occurring sterile male fire ants. "These sterile males are associated with colonies which contain a large number of queens," he says.

"This in itself is unusual since most colonies of fire ants have only one queen, which may live for years.

"If we can identify the cause of this naturally-occurring male sterility, the production of sterile males could then be encouraged in natural populations, or they could be artificially produced for release.

"Sterile males would be of real help in reducing reinfestation of treated areas or halting the spread of the imported fire ant. A mature fire ant colony can release as many as 700 queens during mating flights, and a queen can fly as far as ten miles.

"After mating, the queen will in turn establish her own colony and produce more queens in a year or so. Since the queen only mates with one male, if that male was sterile, her eggs would be infertile and fail to hatch, thus she cannot establish a new colony," Hung says.

This potential control method is of major significance because of 1) growing concern about the development of resistance to insecticides in pest species, and 2) pollution of the environment with persistent toxic chemicals.

Sterile males of the red imported fire ant were first discovered by Hung in 1974 in three counties in East Texas. Since then he has sought the cause and its potential in fire ant control.

Like honeybee drones, normal male fire ants have only one set of chromosomes. However, Hung finds sterile males have two sets of chromosomes as do normal queen and worker ants.

His research had been complicated by the fact that the queen and male fire ants only mate in the air at an altitude of 200 to 500 feet.

By using a genetic marker, Hung has determined that queens of the red imported fire ant mate with only one male.

Since fire ant queens and males won't mate in captivity, Hung has developed an artificial insemination technique for fire ants. He has used this method and other biochemical techniques to verify one case of natural crosses between the southern fire ant and the tropical fire ant.

This research is aimed at developing genetic control methods in the near future to supplement the large-scale insecticide-based control programs already in operation.

Hung is a member of an Experiment Station team, working on fire ant control, directed by Dr. Bradleigh Vinson. This group is working on a broad variety of different control methods that include 1) research to discover chemicals that won't pollute the environment but will kill fire ants, 2) juvenile hormones to prevent normal development of young ants, 3) pheromones which are the chemical "smells" used for communication by insects, 4) attractants, which will help ants locate baits and increase usage and 5) environment which discourages or prohibits the spread of these ants.

Vinson stresses the importance of developing alternative methods of control since so many of the chemicals previously used are now unavailable. □

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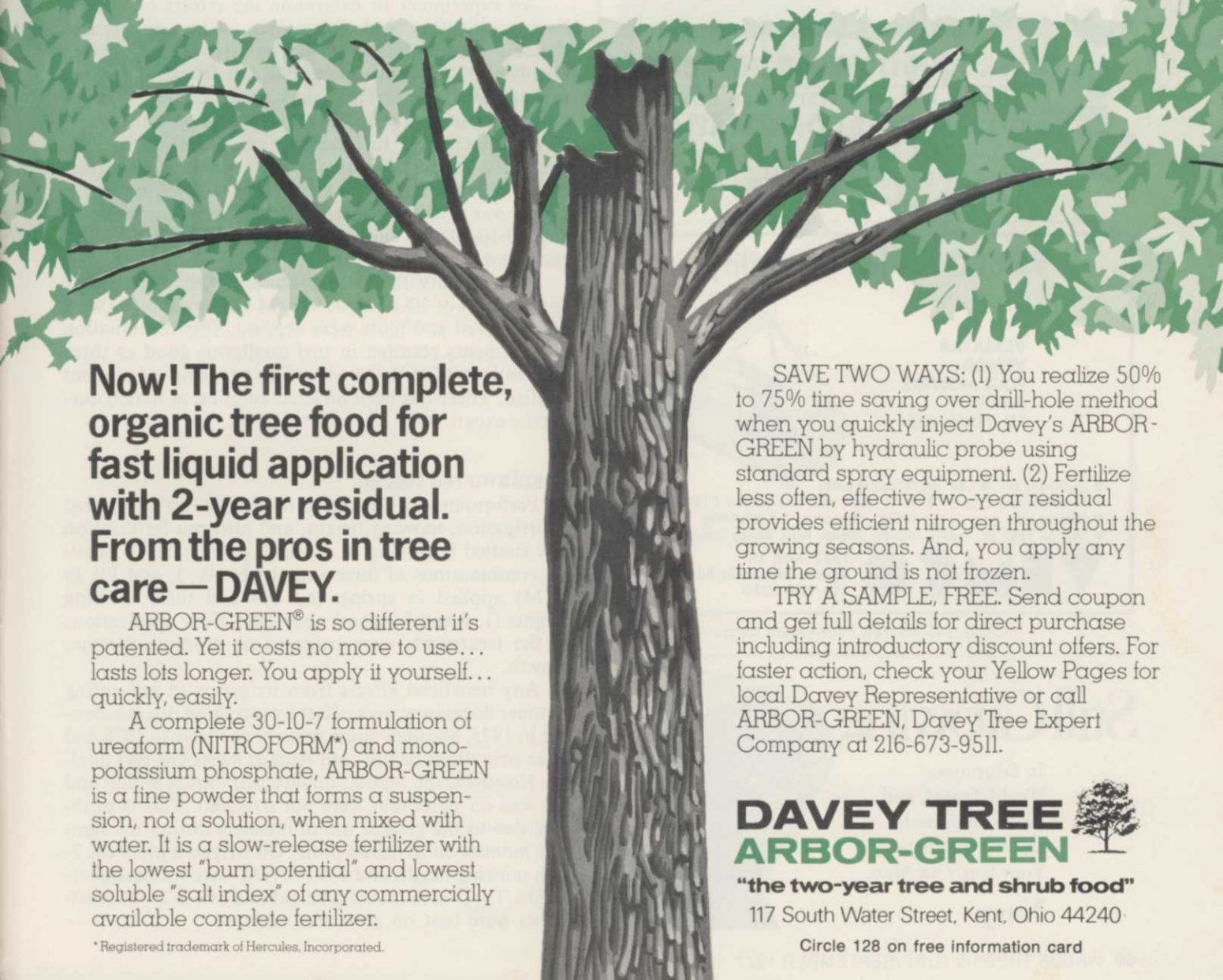

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ARS Beltsville news

These experiments are ongoing and results may change with time.

Bio-dethatch

Bio-dethatch was applied on June 11, 1975 at the rate of one lb/M to one-half of 10 x 10 ft. plots of seven Kentucky bluegrass cultivars, most of which had excessive thatch layers. Plots were not irrigated and no rain occurred for 15 days following the application. Thatch measurements were taken in November. There was no significant difference in thatch accumulation between the treated and untreated plots.

Treatments were repeated on May 6, 1976, and the plots were irrigated immediately following application. Thatch measurements were taken again in November of 1976. Bio-dethatch was not effective in reducing the thatch layer.

Tall fescue

An experiment to determine the effects of fertility levels, cultivation, and clipping removal on quality and thatch accumulation of tall fescue turf was initiated on October 13, 1974, on established tall fescue under turf management for several years. Turf quality was increased significantly by leaving clippings on plots. Aerification increased turf quality while verticutting decreased it when compared with no cultivation treatment. The greatest increase in turf quality from aerification was obtained where clippings were not removed and 10-10-10 was supplied at the rate of 1½ lb N/M each year.

High quality turf was produced with three yearly applications of 10-10-10 at 5 lb/M where clippings were not removed and plots were aerified. This combination of treatments resulted in turf quality as good as three applications of 15 lb/M with clippings removed and not aerified. There has been no accumulation of thatch during the experiment.

Pennlawn red fescue

Performance of Pennlawn red fescue turf as effected by irrigation, mowing height, and nitrogen fertilization was studied beginning in the spring of 1975. All possible combinations of three rates of N (½, 1, and 1½ lb N/M) applied in spring and fall and three mowing heights (1, 2 and 3 inches) were used. Four applications of the treatments were irrigated to promote summer growth.

Any beneficial effects from irrigation in preventing summer dormancy were offset by increased disease damage in 1975. Summer stress was not as severe in 1976 and three irrigations in July and August improved turf quality. However, the highest quality turf during spring and fall was on plots that were not irrigated. This is probably due to the greater use of nitrogen during the summer months on irrigated plots. On irrigated plots the 2-inch mowing height and 1½ lb N/M were the best treatments. The 3-inch mowing height and one lb N/M treatments were best on plots not irrigated.

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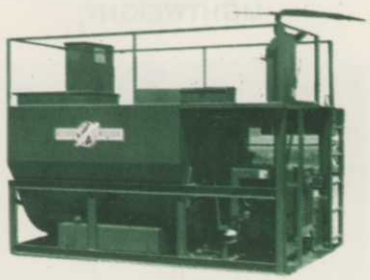

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Rutgers turf research viewed

The Rutgers Turfgrass Research Day, August 4, gave turf people the chance to view firsthand the research plots near New Brunswick, N.J., and results as they appear to date. Observations like these are very valuable because they give a visual impression that words sometimes do not create.

The current results of many extensive research projects were viewed. Dr. C. Reed Funk discussed Kentucky bluegrass plots. His work in turfgrass breeding is widely acclaimed. Bill Dixon, senior soils and plant technician, pointed out the possibilities *Poa trivialis* has in adapting to some turfgrass situations. Dr. R.W. Duell, who is conducting research in highway turf, explained his plots and the work he is doing with roadside turf species.

Shadehouses, donated by the New Jersey Turfgrass Foundation, host of the field day, provide a unique method for analyzing the effect of varying degrees of shade on cultivars and species of fine turfgrasses. One house gives approximately an 80-82% light reduction while the other gives 97-98% reduction. The plots are also duplicated again under natural shade. Graduate assistant Steve Cosky explained his research underneath the roots.

Fertilizer treatments and responses, preemergent crabgrass controls, breeding and strain improvement plots, and disease control experiments were presented as they have developed under the guidance of scientists at Rutgers. □

Dr. H. W. Indyk, Extension Specialist in Turfgrass Management, got the field day off to a fast start and kept the groups moving to see many experiments.

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